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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/082,712	02/25/2002	Pramod K. Arora	ICTP101US	5319

23623 7590 05/19/2004

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EXAMINER	
MEEKS, TIMOTHY HOWARD	
ART UNIT	**PAPER NUMBER**
1762	

DATE MAILED: 05/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/082,712	ARORA, PRAMOD K.	
	Examiner	Art Unit	
	Timothy H Meeks	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 February 2004* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) *12-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 21-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-23* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4/14/02, 4/19/02, 1/8/03
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

Applicant's election of claims 1-11 and 21-23 in Paper No. 0204 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 12-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention.

Claim Objections

Claims 7, 21, and 22 are objected to because of the following informalities: In claim 7, line 2, it appears that the word "one" has been omitted after "least". In claims 21 and 22, it is requested that the acronym "POSS" be spelled out given that it is not a conventionally used acronym whose meaning would be readily discernable to one of ordinary skill in the art. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7, 10, and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For all of the formulas, the phrase "R is.....or fluorinated alkyl ether containing from about 1 to about 30 carbon atoms" is confusing because it is unclear whether all

the listed alkyls in the group are modified by "containing from about 1 to about 30 carbon atoms" or if only the "fluorinated alkyl ether" is modified by this phrase. Also, for formula (I), the meaning of "substituted silane, or siloxane" is unclear. Is this further defining choices for R?, Also, are both the silane and siloxane to be substituted or just the silane?

In claims 10 and 23, the ranges are confusing. It is suggested that the word "and" be changed to "to" for clarification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, and 5-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Dombrowski (5,853,800).

Dombrowski discloses a process for forming a thin film on a substrate comprising providing an oxide antireflection coating on a glass substrate, providing a composite comprising a alumina containing porous carrier and an amphiphilic material, setting the pressure in the chamber to 0.000015 torr and heating the composite to 350 °C to induce vaporization of the amphiphilic material, and recovering the coated substrate (col. 3,

lines 40-55, col. 4, lines 10-45, example 1). The deposition rate in example 1 is about 0.2 nm/sec, the substrate is maintained in the chamber for 30 seconds, and the compound used fits formula (I) of claim 7.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 21-23 are rejected under 35 U.S.C. 103(a) as being obvious over Arora et al. (2002/0082329) in view of Dombrowski.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer

in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

The process as claimed is described by Arora et al. at 35, 38, 40, and 42 with the exception of forming an oxide coating on the substrate in the chamber. However, because Arora describes at 41 that an antireflection coating can be applied by evaporation in the chamber and because Dombrowski discloses at col. 1, lines 28-35 that oxides are typical antireflection coating materials and that they are deposited by vapor deposition, it would have been obvious to have applied oxides as the antireflection coating on the substrate in the chamber because these oxides are art-recognized as being suitable antireflection coatings. Please note that the explicit disclosure of Arora is an inert carrier of titanium dioxide powder mixed with the POSS material as opposed to a "porous carrier". However, all titanium dioxide powder has a certain degree of porosity and therefore is deemed to meet the metes and bounds of the phrase "porous" given that applicants have not otherwise defined the term "porous" to preclude this meaning.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dombrowski in view of Kamura (6,264,751).

Dombrowski is applied as above but is silent as to the pore size of the porous carrier. However, because Kamura discloses that porous carriers having pore sizes in the claimed range are suitable for absorbing amphiphilic material to be vaporized (col. 5, line 60 to col. 6, line 5), it would have been obvious to use such pore sizes given their art recognized suitability.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dombrowski.

Dombrowski is applied as above. Dombrowski fails to disclose the amount of material absorbed on the porous carrier. However, because Dombrowski discloses at col. 4, lines 1-5 and 20-25 that the coat thickness achieved is dependent on the quantity of compound introduced on the porous carriers, the amount of material absorbed on the carrier is a result effective parameter which determines the thickness of the final coating and therefore it would have been obvious to have adjusted this result effective parameter to values in the claimed range so as to optimize the coating thickness, especially absent evidence showing a criticality for using the claimed amounts of compound.

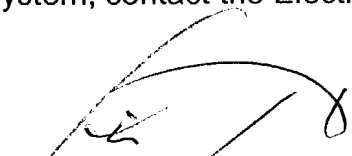
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPs 6,440,550 and 5,165,955 are cited for their disclosure of vapor depositing silsesquioxane compounds. These references are only directed to hydrogen silsesquioxane or fluorinated silsesquioxanes, not POSS compounds.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy H Meeks whose telephone number is 571-272-1423. The examiner can normally be reached on Mon, Wed, Thur 6-6:30, Fri 6-10.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on 571-272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Timothy H Meeks
Primary Examiner
Art Unit 1762